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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,424	12/12/2003	Roger Francis Bernards	14993US01	2278
23446	7590	02/16/2006		
MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661			EXAMINER KOPEC, MARK T	
			ART UNIT	PAPER NUMBER
			1751	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/735,424	<b>Applicant(s)</b> BERNARDS ET AL.	
	<b>Examiner</b> Mark Kopec	<b>Art Unit</b> 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/25/06 has been entered.

Claims 1-9 are currently pending.

The prior art rejections of record are withdrawn in view of applicant's amendment and remarks.

Note the following new grounds of rejection.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in

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order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bonsignore et al (6,432,320).

Bonsignore discloses an additive suited to use in combination with heat transfer media comprises a chemically stabilized nano-particle size powder. Suitable powders include those of copper, beryllium, titanium, nickel, iron, alloys or blends thereof, and carbon (Abstract). The reference specifically discloses graphite (Col 4, lines 15-16; Col 5, lines 43-44), and additionally teaches the addition of triazole corrosion inhibitors and aqueous medium (Col 4, lines 48-53; Col 8, lines 10-26). The ranges disclosed in the reference overlap with those instantly claimed (Col 5, lines 14-17; Col 10, lines 10-15; examples). The reference specifically or inherently meets each of the claimed limitations.

The reference is anticipatory.

In the event that any minor modifications are necessary to meet the claimed limitations, such as minor variation in percentages, such modifications are well within the purview of the skilled artisan.

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Claims 1 and 3-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bonsignore et al (2004/0069454).

Bonsignore et al discloses composition and method for enhancing the thermal conductivity in heat transfer systems. The composition comprises a powder having average particle sizes in the nanometer to micron size range, a coating for imparting corrosion resistance and/or acting as a dispersant, and a heat transfer medium. The heat transfer medium is selected from the group of interpolymers, polymers, gaseous and liquid fluids, and phase change materials. Suitable powders include metals and metal oxides, alloys or blends thereof, and carbon derivatives (Abstract). The reference specifically discloses graphite (para 0032), and additionally teaches the addition of triazole corrosion inhibitors and aqueous medium (0035; 0060). The ranges disclosed in the reference overlap with those instantly claimed (0038; 0076; examples). The reference specifically or inherently meets each of the claimed limitations.

The reference is anticipatory.

In the event that any minor modifications are necessary to meet the claimed limitations, such as minor variation in percentages, such modifications are well within the purview of the skilled artisan.

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Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bittner et al WO 02/31222 A2.

Note U.S. 2004/0054044 is the 371 filing of PCT/EP01/11506 and is being relied upon as an English Language translation of WO 02/31222 A2.

Bittner discloses a method for coating a metallic surface with a composition. This method is characterized in that the composition contains the following in addition to water: a) at least one organic film former containing at least one polymer which is soluble in water or is dispersed in water; b) a quantity of cations and/or hexafluoro complexes of cations selected from the group comprising titanium, zirconium, hafnium, silicon, aluminium and boron; and c) at least one inorganic compound in particle form with an average particle diameter of 0.005 to 0.2  $\mu\text{m}$ , measured with a scanning electron microscope. The clean metallic surface is brought into contact with the aqueous composition and a film containing particles is formed on the metallic surface. This film is then dried, the dry film having a layer thickness of 0.01 to 10  $\mu\text{m}$ . The invention also relates to a corresponding aqueous composition (Abstract). In addition to water, the compositions contain the claimed amount of corrosion inhibitor such as benzotriazole (0033). Additionally, it can be advantageous if as particles of the

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compound in particle form examples having elevated or high electrical conductivity are used, in particular particles of oxides, phosphates, phosphides or sulfides of aluminium, iron or molybdenum, in particular aluminium phosphide, iron oxide, iron phosphide, at least one molybdenum compound such as molybdenum sulfide, **graphite or/and carbon black** (0046).

The reference differs from the instant claims in failing to specifically recite the claimed range (0.1 to 25 wt%) of conductive graphite.

It is the examiner's position that the skilled artisan would have to utilize only routine testing in order to arrive at graphite amounts within the claimed range. In fact, in order to render the prior art compositions conductive, amounts greater than the claimed minimum would be necessary. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative




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to or less material than the prior art references relied upon in the rejection above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is (571) 272-1319. The examiner can normally be reached on Monday - Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mark Kopec  
Primary Examiner  
Art Unit 1751

MK  
February 13, 2006